

Mindfulness Based Anhedonia Reduction (MBAR) Therapy in reducing Major Depression in University Students.

Dr. Ahmed Mohamed Gadelrab Abouzaid

Mental Health and Special Education Assistant Professor

Drahmedab2020@gmail.com <https://orcid.org/0000-0002-0795-278X>

Dr. Heba Gaber Abdelhamid

Mental Health Assistant Professor, Sohag University

DOI:

Abstract: In the current research, the searchers introduce a new therapeutic approach under the name of "**Mindfulness Based Anhedonia Reduction (MBAR) Therapy**", and this approach was defined in terms of its objectives, foundations, techniques, theories supporting it, and its content. The current study was to identify the effectiveness of Mindfulness Based Anhedonia Reduction (MBAR) Therapy in reducing major depressive disorder among university students, and the sample consisted of 17 participants from Sohag University students, in the age range of 19-21 years, an experimental group consisting of 9 participants (5 females, 4 males). , with a mean age of 19.88 years, a standard deviation of 0.927), and a control group consisting of 8 participants (5 females, 3 males, with a mean age of 20 years, and a standard deviation of 0.925), and they were derived from 320 participants, and the Major Depression Inventory (MDI) was used (Bech, et al., 2001; 2015) Translated by the researchers, and the Anhedonia List (AL) (Abu Zaid and Abdel Hamid, 2023), a treatment program was built " Mindfulness Based Anhedonia Reduction (MBAR)", and it consisted of 16 treatment sessions, procedural objectives, session content and evaluation They are described in Appendix 1. The intervention was effective in reducing major depressive

disorder and anhedonia.

Keywords: Mindfulness Based Anhedonia Reduction (MBAR) Therapy, major depression (MDI), anhedonia (AL).

Introduction:

Major depressive disorder (MDD) is considered one of the depressive disorders in the Fifth Diagnostic and Statistical Manual of Mental Disorders (2013) and the fifth revised (2022). MDD is defined by the presence of at least one major depressive episode in the absence of manic or hypomanic episodes. The essential feature of a major depressive episode is a period lasting at least two weeks during which the individual has in a depressed mood or experiences a loss of interest or pleasure in all or nearly all activities for most or nearly all of the day. The individual must also experience at least four additional symptoms during the same two-week period, derived from a list that includes changes in appetite or weight, sleep, and psychological activity; low energy, feelings of worthlessness or guilt; thinking difficulty, concentrating, or making decisions; thoughts of death, suicidal ideation, suicide attempt, or specific plan for suicidal behavior. (APA, 2022).

Findings from Gutiérrez-Rojas (2020) found that MDD is one of the most mental illnesses Which causes disability and has a significant negative impact on society. The lifetime prevalence of MDD ranged from 2 to 21%, with the highest rates in some European countries and the lowest in some Asian countries. As child abuse, intimate partner violence, and comorbidity with other physical and mental disorders were also consistently associated with MDD across the studies reviewed.

According to the Global Burden of Disease Study, depression is the fourth main cause for handicap, and it is expected to be the second cause by 2020, and has a greater impact on public health than physical conditions such as coronary

heart disease, rheumatoid arthritis, or diabetes mellitus, In addition to the great economic burden. (Kessler, 2012; Murray, & Lopez, 199; Reddy, 2010).

MDD occurs twice as often in women as in men (Seedat, et al., 2009) and affects approximately 6% of the adult population worldwide each year (Bromet et al., 2011). MDD is the second major contributor to the chronic disease burden (Vos et al., 2015). In addition, MDD is associated with an increased risk of diseases such as diabetes, heart disease, and stroke (Wooley & Wong, 2013), which increases the burden of disease. Furthermore, MDD can lead to death by suicide. It is estimated that up to 50% of the 800,000 suicides annually worldwide occur during a depressive episode (Turecki, et al., 2019) and that patients with MDD are approximately 20 times more likely to die by suicide than the general population. (Bachmann, 2018).

Anhedonia has been described with MDD (Loas, 1996; Shankman, et al., 2010). and as a major symptom of depressed mood (APA, 2013). It was included in the Beck list of depression second edition (Beck et al., 1996). The results of Shankman et al. (2010) showed that over time physical anhedonia was relatively stable and associated with depressive symptoms. Findings from Loonen and Ivanova (2016) indicated that people with MDD have inability in pleasure and happiness. Hallford et al. (2020) indicated that depressed individuals have difficulty in expect pleasure and pleasure and the results from Rottenberg et al. (2005) indicated that people with depressive disorder are less happy and experience less happiness.

The results of some research indicated that there is a relationship between Mindfulness and depression, so Sharma and Kumra (2022) found that Mindfulness is negatively associated with depression. Watkins et al. (2022) found that Mindfulness, social safety, and self-reassurance are the strongest and most relevant protective factors against both depressive tendencies and anxiety, and the results of Bajaj et al. (2016) using structural equation

modeling (SEM) indicated that mindfulness has an indirect effect on anxiety and depression through self-esteem and mindfulness was negatively associated with both anxiety and depression (n=187 adults). (Cisler & Olatunji, 2012).

Research problem:

Abouzaid, and Abdelhamid (2023) found that anhedonia played a mediating role between Mindfulness and both anxiety and depression, so a new therapeutic approach was recommended “Mindfulness Based Anhedonia Reduction” to reduce anxiety and depression disorders. These results were supported by the results of some research and theoretical frameworks. So, mindfulness was a potential buffer for depression and plays an important role in it (Barcaccia et al., 2022; Cisler & Olatunji, 2012; Sharma & Kumra, 2022; Watkins et al., 2022), Mindfulness is also a mechanism by which a decrease in anhedonia symptoms may occur. (Carlton et al., 2021). Anhedonia is a major contributor to depression. (Loonen & Ivanova, 2016; Apa, 2013; 2002; Loas, 1996; Shankman et al., 2010; Hallford et al., 2020; Rottenberg et al. 2005).

Vinckier et al. (2017) found that using multivariate regression, reducing in anhedonia was the strongest predictor of improvement in psychosocial functioning. In addition, the mediation tests confirmed that the association between improvement in depressive symptoms and improvement in social functioning was significantly supported by improvement in anhedonia over time. The separation was strongly anticipated by the persistence of anhedonia. Thomas and Garland (2017) recommended that interventions that increase mindfulness may reduce pain-related vulnerability among opioid-using patients by enhancing the capacity for hedonic. Anhedonia was associated with pain-related interference, while mindfulness was protected against such interference by virtue of its association with a greater capacity for hedonic. And findings from some researches have suggested that mindfulness can help increase

enjoyment of hedonic experiences. (Arch et al. 2016; Hong et al. 2014) which may result in lower anxiety and depression, as anhedonia is a major component of both.

And based on the proposed model in the results of the research of Abouzaid, and Abdelhamid (2023), who suggested that mindfulness has a direct and indirect effect on both anxiety and depression, and that anhedonia played an important mediating role in developing this relationship among a sample of university students; Therefore, researchers are testing the effectiveness of Mindfulness Based Anhedonia Reduction (MBAR) Therapy in reducing major depressive disorder on a sample of Sohag University students (Egypt) by answering the following question: What is the effectiveness of Mindfulness Based Anhedonia Reduction (MBAR) Therapy in reducing major depressive disorder on a sample of students Sohag University?

Objectives: The current research aimed to identify the effectiveness of Mindfulness Based Anhedonia Reduction (MBAR) Therapy in reducing major depressive disorder on a sample of Sohag University students.

Terminology:

- **Major depressive disorder (MDD):** Defined as a disorder characterized by at least two weeks during which the individual is in a depressed mood or experiences a loss of interest or pleasure in all or nearly all activities for most or nearly every day. The individual must also experience at least four additional symptoms during the same two-week period, derived from a list that includes changes in appetite or weight, sleep, and psychomotor activity; low energy feeling worthless or guilty; difficulty thinking, concentrating, or making decisions; thoughts of death, suicidal ideation, suicide attempt, or specific plan for suicidal behavior. (APA, 2022). MDD

is measured procedurally by the degree that the subject obtains on it from the used scale in the current research.

- **Anhedonia** is defined as a decrease in pleasure (hedonism) in response to pleasurable stimuli, which manifests itself in three levels: desire, effort, and experience. Anhedonia has four sub-scales:(1) **Cognitive Anhedonia**: defined as: the inability of an individual to enjoy his cognitive abilities while performing tasks and activities in daily life. It is measured by not wanting the enjoyable activity, making an effort to get it, or experiencing the enjoyable experience as it should. (2) **Emotional Anhedonia**: defined as the inability to enjoy emotionally during tasks and activities of daily life; is measured by not wanting the enjoyable activity, making an effort to get it, or experiencing the enjoyable experience as it should. (3) **Social Anhedonia**: defined as the inability to enjoy socially during the practice of tasks and activities in daily life; is measured by not wanting the enjoyable activity, or making an effort to get it, or living the pleasant experience as it should, for example, refusing to socialize with others, or enjoying interaction with peers. (4) **Physical Anhedonia**: defined as the inability to enjoy physically during the practicing tasks and activities in daily life; is measured by not wanting the enjoyable activity, or making an effort to get it, or living the pleasant experience as it should, for the sake of enjoying the taste of a particular fruit or wanting it, or keen to buy it. (Abouzaid & Abdelhamid, 2023). Anhedonia is measured procedurally by the degree that the subject obtains on it from the used scale in the current research.
- **Mindfulness Based Anhedonia Reduction (MBAR) Therapy**: Defined as: An evidence-based therapeutic approach that includes a set of mindfulness practices based on anhedonia, and aims to reduce anhedonia, in disturbed individuals, or to improve the individual's competence for enjoyment and pleasure. It is an approach in which the mindfulness technique is an

essential technique, with a focus on techniques derived from therapeutic approaches to implementing mindfulness practices, and not as general techniques in and of themselves.

Limitations: 1) Objective: mindfulness-based anhedonia reduction therapy and major depressive disorder, 2) Human: a sample of university students, 3) Place: students of Sohag University, Egypt, 4) Temporal: in the second semester 2022-2023.

Research literature:

Mindfulness Based Anhedonia Reduction (MBAR) Therapy: It was clarified through the following elements:

The goals of MBAR Therapy are: The proposed therapeutic approach "MBAR Therapy" aims to build, develop and improve hedonic in four domains (cognitive, emotional, social, and physical). This also requires improving three levels of anhedonia, namely: 1) Improvement or development of desire in all areas of anhedonia, 2) Improving or developing effort in all areas of anhedonia, Improve or develop experience in all areas of anhedonia.

The foundations on which the proposed therapeutic approach is based (**MBAR Therapy**):

1. **The general basis:** the constructive proposed model by Abouzaid, and Abdelhamid (2023), which indicated that mindfulness has a direct and indirect effect on both anxiety and depression, and that anhedonia played an important mediating role in the development of this relationship.
2. **Results of previous research:** The results of previous research support the proposed therapeutic approach. The following are the most important elements related to the therapeutic approach:
 - A. The relationship between anhedonia and mental disorders: The results of some research have found a relationship between anhedonia and

depression and other disorders. Anhedonia is closely related to depression, but it is also a feature of other disorders such as post-traumatic stress disorder, social phobia, schizophrenia (Nawijn et al., 2015; Strauss & Gold, 2012; Watson & Naragon-Gainey, 2010) and eating disorders. (Murray et al., 2021). It is also associated with autism and neurodevelopmental disorders. Dichter et al., 2022). And Anhedonia differs from the other essential feature of depression, depressed mood. which is also referred to as distress. (Paulus et al., 2017; Watson, 2009). It contributes to poor performance (Ameral, et al, 2017; Fried & Nesse, 2014) and to increased suicidal thoughts (Ducasse et al., 2018).

- B. Anhedonia is an independent factor in depression and other disorders, Boehm, et al. (2018) suggested that Anhedonia is independent of depression, and is similar to the traits in people with anorexia, also, Anhedonia contributes to anxiety disorders independently of depression. (Pushkarskaya et al., 2019). Anhedonia is at the core of mood disorders (APA, 2013). Anhedonia has been classified as a negative symptom in schizophrenia, although impairments in emotional expression and social belonging can also indicate anhedonia (Horan et al., 2011). Anhedonia is a central symptom in PTSD, where maladaptive coping (eg. avoidance) and PTSD symptoms create conditions for reduced reward and pleasure (Nawijn, et al., 2015).
- C. Anhedonia can be viewed as avoidance: the results of some research revealed that avoiding social situations and interactions and indulging in enjoyable activities is a natural consequence of anhedonia, and such symptoms may appear in anxiety disorders, depression and some less severe mental health variables such as loneliness and shyness. (Morgan, et al., 2017; Nawijn, et al., 2015).

- D. Anhedonia as a low positive affect or a high negative affect: as the disturbed individuals who search for drugs and their alternatives are people seeking pleasure. (Tragesser, et al., 2008; Buckner, et al., 2019). The research results in points b, c, and d pave the way for anhedonia to be a therapeutic target.
- E. Anhedonia as a treatment target: Vinckier et al. (2017) found that reducing in anhedonia is the strongest predictor of improvement in psychosocial functioning, In addition, the mediation tests confirmed that the association between improvement in depressive symptoms and improvement in social functioning was significantly supported by improvement in anhedonia over time. The separation was strongly anticipated by the persistence of anhedonia. The results of Gourion, et al. (2016) found that improvement in anhedonia is a significant mediating variable between the development of depressive symptoms and social functioning ($\Delta QFS G = -14.3, P < 0.0001$), and explains about a third of the model variance (35.37%).
- F. Mindfulness as a therapeutic mechanism, as a development and building mechanism, as a protective factor, as a buffer. (Barcaccia et al., 2022; Didonna, 2009; Morris, 2020; Nyklíček & Kuijpers, 2008; Watkins et al., 2022).
- G. Mindfulness Based Anhedonia Reduction: Carlton et al. (2021) as part of his research procedures found that there is a relationship between mindfulness and anhedonia, and it was demonstrated that only improvement in mindfulness was a mediator of the improvement in social anhedonia; Thomas and Garland (2017) found that mindfulness was associated with the ability to enjoy in a sample of people with chronic pain (n=115 patients). Mindfulness can help increase the enjoyment of hedonic experiences. This applies, for example, to

hedonic food, which is higher with mindfulness (Arch et al. 2016; Hong et al. 2014). as well as to satisfy hedonic sexual activities in relationships (Khaddouma et al., 2015). Additionally, there is evidence that mindfulness interacts positively with the ability to savor positive emotions in the present moment; The interaction and synergy between mindfulness and the perceived ability to savor the present moment predict daily positive emotions, as well as influence other psychological variables (well-being, depression, life satisfaction). (Kiken et al. 2017); Thomas and Garland (2017) recommended that interventions that increase mindfulness may reduce pain-related vulnerability among opioid-using patients by enhancing the capacity for hedonic; Anhedonia was associated with pain-related interference, while mindfulness was protected against such interference by virtue of its association with a greater capacity for hedonic.

3. The supported Theories to the proposed therapeutic approach “**MBAR Therapy**”

A. Some theories support the hypothesis that negative Affective acts as a chronic barrier to pleasurable experiences. Reward devaluation theory (RDT) posits that some depressed individuals avoid positivity because of its prior association with negative outcomes And Negative Affective Interference theory (NAIT), or experiencing negative affect in response to positivity, fear of happiness, fear of potential happiness. (Jordan, et al., 2021), NAIT is specifically designed for patients who suffer from post-traumatic stress disorder, for example, from abuse or domestic violence. Due to their traumatic experiences, positive external social experiences are seen as threatening, It reduces the positive Affective and increases the negative Affective on subjective feelings that spoil subsequent enjoyable social experiences. (Barkus, 2021e), This

indicates that anhedonia is the result of wrong learning in the context, and therefore the person suffering from anhedonia may have negative beliefs and experiences that may hinder his enjoyment and make it a negative experience that he avoids. This paves the way for developing disorders, and perhaps this explains the emergence of anhedonia as an independent factor in many disorders, and may explain the variation in the nature of anhedonia from one disorder to another and from one person to another, and in the same way that anhedonia was produced, this link can be broken, so the therapeutic approach The current is based on learning theories to properly build and develop "hedonic".

- B. The current approach is based on the foundations and techniques of cognitive-behavioral therapy approaches, because the concept of anhedonia is a broad concept that may include wrong education systems, dysfunctional beliefs, and low desire, and this requires the combination of multiple and diverse techniques within the framework of the current approach, “**MBAR Therapy.**”
- C. The current approach agrees with the therapeutic approaches that rely on Mindfulness as a therapeutic mechanism. Such as: Mindfulness-Based Stress Reduction (Kabat - Zinn, et al., 1992), Mindfulness-Based Cognitive Therapy (Segal et al., 2002), dialectical-behavioral therapy. (Linehan, 1993a, b) and acceptance and commitment therapy (Hayes, et al 1999).

Design and implementation:

- The anhedonia list is an essential tool for constructing and presenting a suggested therapy.
- Mindfulness is a reliable mechanism for the implementation of all intervention activities.

- The intervention is prepared in advance based on the level of anhedonia that was measured and assessed before the start of the intervention. This falls under the name of “brief -**MBAR Therapy**”.
- The comprehensive intervention includes the design of an intervention based on all domains of anhedonia (cognitive, emotional, social, and physical), and all levels of anhedonia (desire, effort, experience) and is called the “comprehensive -**MBAR Therapy**.”
- Intervention is done through individual or group sessions or both if the dysfunctional anhedonia beliefs are severe, especially with regard to the intimate relationship between the spouses.
- The anhedonia technique may be accompanied by other assistive techniques, for example when increasing desire as a level of anhedonia, mindfulness can be applied in conjunction with cognitive techniques to reduce the dysfunctional beliefs that often accompany deficiencies in desire. When developing a level of effort, mindfulness may be implemented with techniques that aid research and exploration, homework, and reading. When working to develop living experience as a third level of anhedonia, mental alertness may be implemented with techniques such as: Flooding or Exposure of various kinds.
- the development of anhedonia or the reduction of anhedonia is carried out on the vertical level, that is, starting with the level of “desire” in all areas of anhedonia, then “effort”, and finally experience, as these levels are following, desire in all fields is interrelated, and so on with effort and experience.
- This intervention requires that the specialist have a large list that includes a large number of mindfulness exercises, to be available at any

time, and that there be more than one mindfulness to the exercise and more than one exercise to achieve the same goal.

- Objectives are formulated procedurally so that they are observable and measurable.
- Each stage of implementation is assessed before starting the next stage, i.e. the level of desire is evaluated before starting the level of effort, and it is possible to take advantage of the desire assessment elements in the Anhedonia List or to design other assessment elements within the framework of the intervention.
- Daily notes and homework are important components that accompany the intervention.
- Focusing on what is available to the client in terms of hedonic or enjoyment, that is, trying to distance from what is costly to the client, taking into account the economic and social conditions of each client.
- Linking mindfulness exercises to hedonic or enjoyment: Through mindful awareness of cognitive, emotional, social, and physical sensations during experiences such as eating, social interaction, and physical exercise, as well as the apparent association between the experience of hedonic and the activities preceding it.
- The comprehensive design includes: Sessions to reduce areas of cognitive, emotional, social, and physical anhedonia separately, and sessions for each level separately, which includes desire, effort, and experience.

Diagnosis and assessment: Require the following:

- Accurate diagnosis and evaluation of the underlying disorder (eg: major depression, generalized anxiety,).
- Diagnosis and assessment of areas and levels of anhedonia (based on the list of anhedonia).
- Checking the level of progress during the application of the “mindfulness-based anhedonia reduction” intervention.
- The final assessment includes: Assessment of disorder and anhedonia.

Suggested intervention scenario "MBAR Therapy": Preparation and implementation of a mindfulness-based anhedonia reduction intervention program requires the following steps:

- **Procedural objectives:** Accurate identification of procedural objectives depends on diagnosis and evaluation to determine the appropriate level of intervention (eg identification of deficiencies; first, identification of the domains of anhedonia (cognitive, emotional, social, physical), second: identification of the level of impairment (desire, effort, experience), and accordingly the procedural goals are formulated, and the procedural goals may be derived from the following goals: (1) improving or building the desire for cognitive, emotional, social, and physical hedonic, (2) building or developing the effort for cognitive and emotional, social, and physical hedonic, (3) building or developing the experience for cognitive and emotional, social, and physical hedonic.
- **Mindfulness Exercises:** The specialist prepares mindfulness exercises in advance to be suitable for the procedural goals of the intervention, It is formulated in the form of a clear and accurate scenario, which is appropriate to the type of client, his level of learning, his level of disorder, his age level, and others that affect the intervention, The

scenario includes the observation of hedonic and pleasure. The goal of mindfulness here is to develop and build up hedonic or reduce anhedonia.

- **Evaluation of the Mindfulness Exercise:** This step requires direct evaluation of the exercise in light of its objectives and content, and what the specialist wishes to develop in the client. The evaluation is prepared in the form of a pre-prepared worksheet, and it is available during the exercise, and this evaluation is not postponed until the end of the session, as the evaluation here is continuous to confirm the experience directly, and to remedy the deficiencies before entering the next exercise.
- **Assistive techniques:** The mental alertness technique may be the basic technique, and assistive techniques may be required. These techniques can be grouped into three groups. (1) Disordered thought modification techniques associated with anhedonia, (2) visualization techniques to evoke experiences that may not be available in the intervention room, (3) flooding and exposure techniques, used to place the client into direct actual experience. The specialist may be free to choose techniques that help him from other therapeutic approaches.
- **Homework:** an important element in this intervention, and its purpose here is to generalize and consolidate experience. The evaluation focuses on two aspects; (1) the homework of what you are doing for the client in the current session, i.e. emphasizing the application and continuation of what you have learned, (2) finding exercises similar to the session objective and practicing them in real life.
- **The first preparation session:** includes a review of assessment (disorder and anhedonia), warm-up (encouragement and

reinforcement), agreement (time, duration, type of training, work rules), and training (presentation of a sample mindfulness exercise).

- **Final Session:** It includes assessment (assessment of anhedonia), generalization (the client's ability to apply what you are learning), and Creating (the client's ability to take advantage of the available capabilities in the environment to train on mindfulness, and his ability to search for other exercises that enhance his capabilities and reduce his disorder). The specialist can create his own evaluation models to evaluate these processes.

Research procedures and methodology:

Research sample: (1) the exploratory sample: the research sample consisted of 112 participants from Sohag University students, male and female, to calculate the validity and reliability of The Major Depression Inventory (MDI), and the Anhedonia List (AL), (2) the main sample: it consisted of 17 participants from Sohag University students, Their age ranged from 19-21 years, an experimental group consisting of 9 participants (5 females, 4 males, with an average age of 19.88 years, and a standard deviation of 0.927), and a control group consisting of 8 participants (5 females, 3 males, with an average age of 20 years, 0.925 standard deviation), and were derived from 320 participants, where those with higher scores on the major depression and anhedonia list (higher quartile, representing higher depression and anhedonia) were selected. The equivalence between the experimental group and the control group was verified in the research variables, and Table 1 shows the equivalence between the two groups in the research variables:

Table 1: *Equivalence between the experimental and control groups in the research variables*

Variables	Group Type	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)	significance level																																																																									
Age	EG	9	8.72	78.50	33.500	0,272	0,797	NS																																																																									
	CG	8	9.31	74.50					MDI	EG	9	9.06	81.50	35.500	0,050	0,960	NS	CG	8	8.94	71.50	CA	EG	9	10.00	90.00	27.000	0,887	0,375	NS	CG	8	7.88	63.00	EA	EG	9	8.00	72.00	27.000	0,940	0,347	NS	CG	8	10.13	81.00	SA	EG	9	8.89	80.00	35.000	0,102	0,918	NS	CG	8	9.13	73.00	PA	EG	9	8.56	77.00	32.000	0,404	0,686	NS	CG	8	9.50	76.00	AL	EG	9	8.50	76.50	31.500	0,437	0,662
MDI	EG	9	9.06	81.50	35.500	0,050	0,960	NS																																																																									
	CG	8	8.94	71.50					CA	EG	9	10.00	90.00	27.000	0,887	0,375	NS	CG	8	7.88	63.00	EA	EG	9	8.00	72.00	27.000	0,940	0,347	NS	CG	8	10.13	81.00	SA	EG	9	8.89	80.00	35.000	0,102	0,918	NS	CG	8	9.13	73.00	PA	EG	9	8.56	77.00	32.000	0,404	0,686	NS	CG	8	9.50	76.00	AL	EG	9	8.50	76.50	31.500	0,437	0,662	NS	CG	8	9.56	76.50								
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	CG	8	9.56	76.50																																																																													

Note: *EG= experimental group; CG =control group; NS= NO significance; MDI= Major Depression Inventory; CA=Cognitive anhedonia, EA=Emotional anhedonia, SA= Social anhedonia, PA=physical anhedonia; AL= anhedonia list.*

It is clear from Table 1 that there were no differences between the experimental group and the control group in the research variables (age, major depression, cognitive, emotional, social, and physical anhedonia, and the total degree of anhedonia).

Search Tools:

- **Major Depression Inventory (MDI):** MDI was developed by Bech et al. (2001) as a tool for the World Health Organization in 2001, and the MDI was based on DSM-IV symptoms for major depression and the tenth revision (ICD-10) for moderate to severe depression. The statistical properties of the MDI were verified in several settings and environments, and the MDI achieved an appropriate level of validity and reliability. The MDI consisted of 12 items, which the subject responds to by himself, or through a specialist, and the response takes place by choosing from the six alternatives in front of each item (0-5). Standards were set for the MDI (0-20 no depression, 21-25 mild depression, 26-30 moderate, 31-50 severe). (Bech, et al., 2015). **In the current research**, the psychometric properties of the MDI were verified through: (1)

Exploratory Factor Analysis: The factor validity of the scale items was calculated using the basic components method, and the factorial analysis of the scale items resulted in a general factor that accommodate 51.195% of the total variance, and 12 items are saturated with it, considering the minimum loading of the items is (0.3). Table 2 shows the Eigen Value and variance ratios of the factor:

Table (3) Estimated factorial loadings for the one-factor model through exploratory factor for the major depression inventory (n = 112)

Items	Depression	Communality
1	0.595	0.354
2	0.614	0.377
3	0.735	0.540
4	0.784	0.615
5	0.800	0.640
6	0.825	0.681
7	0.644	0.415
8	0.606	0.367
9	0.714	0.510
10	0.720	0.518
11	0.778	0.605
12	0.721	0.519
KMO=	0.896	
Bartlett test =	1113.395	Sig=0.000
Eigen Value	6.143	Cumulative %
variance	51.195%	51.195%

Notes: *KMO* = Kaiser-Meyer-Olkin Test,

Confirmative Factor Analysis: The confirmatory factor analysis was calculated from the first order of the inventory of major depressions, through the use of the Amos (24) program using the Maximum Likelihood method. The model obtained an acceptable matching quality, as most of the indicators fell within the ideal range.

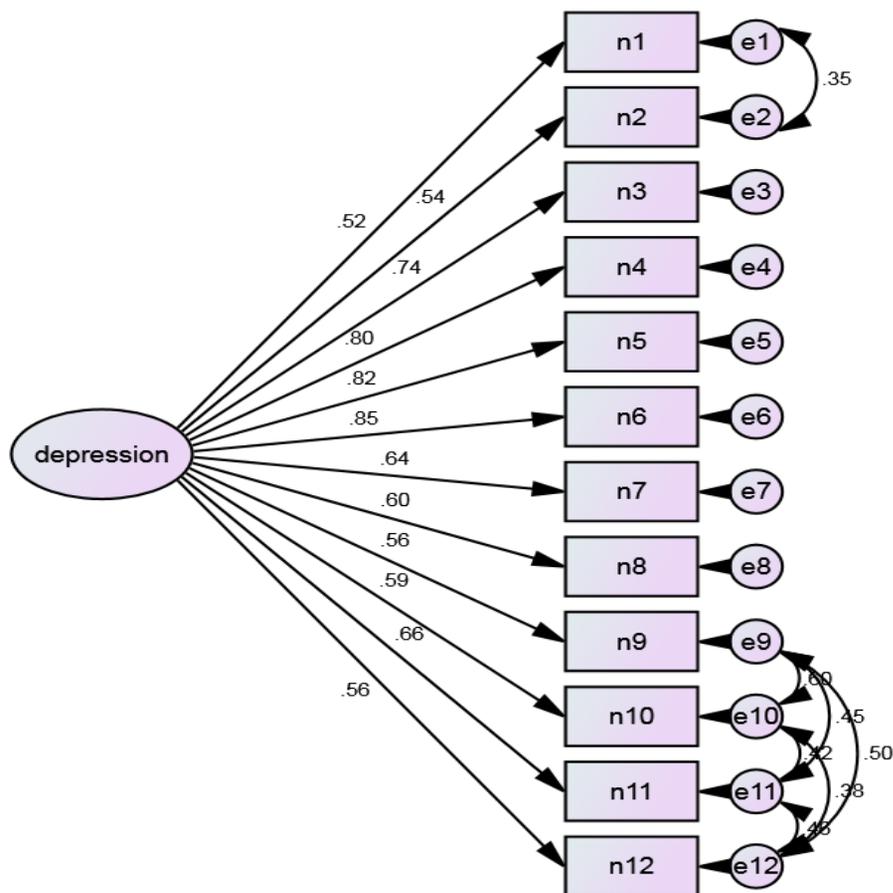


Figure (1) First-order confirmatory factor analysis model for major depressions inventory.

($\chi^2 / df = 1.738$, $RMSEA = 0.066$, $RMR = 0.053$, $IFI = 0.968$, $CFI = 0.968$, $TLI = 0.955$, $RFI = 0.900$, $NFI = 0.929$), Notes: χ^2 = chi square, df = degrees of freedom, $RMSEA$ = root mean square error of approximation, RMR = root mean square residual, IFI = Incremental Fit Index, CFI = comparative fit index, TLI = Tucker-Lewis's index, RFI = Relative fit index, NFI = Normed fit index.

Reliability: The Reliability was verified using Cronbach's alpha ($\alpha = 0.912$) and McDonald's Omega Reliability coefficient ($\omega = 0.914$).

- **Anhedonia List**; consisted of four subscales (cognitive anhedonia "18 items", emotional "14 items", social "19 items", and physical "18 items"). Each subscale has three factors (levels), which are desire, effort and experience. The stability of the scale was verified through the Alpha Cronbach stability coefficient, so the values ranged between 0.819 - 0.973 and through the Omega stability coefficient, the values ranged between 0.938-0.812. The validity of the construction was verified through the correlation between the subscales of the anhedonia list and the abbreviated social and physical anhedonia scale (Winterstein et al., 2011). The values ranged between 0.821- 0.901 for the abbreviated social anhedonia scale. The values ranged between 0.812 - 0.895 for the abbreviated physical anhedonia scale, and the internal consistency values (the items for the total degree of subscale) ranged between 0.866 - 0.932. (Abouzaid & Abdelhamid, 2023). In the current research, the stability of the anhedonia list was verified through the Alpha Cronbach stability coefficient, reaching 0.812 for cognitive anhedonia, 0.854 for emotional anhedonia, 0.911 for social anhedonia, and 0.875 for physical anhedonia.
- **Mindfulness-based anhedonia reduction program**: It consists of 16 procedural sessions, and the procedural objectives, content of the sessions, and assessment are described in Table 1. (Appendix 1).

Statistical Methods: Manny-Whitney Test and Wilcoxon Test were used to test the hypothesis.

Research Results:

The Results of the First Hypothesis: the text of the first hypothesis: “There are statistically significant differences between the rank means of the experimental group before and after applying the mindfulness-based anhedonia reduction program on the major depression inventory and an anhedonia list in favor of the post-measurement.” to validate this hypothesis, it used the Wilcoxon Test. and table 3 shows the results:

Table 3: Differences between the rank means of the experimental group on the major depression inventory and the anhedonia list before and after applying the mindfulness-based anhedonia reduction program.

Variables	Ranks	N	Mean rank	Sum of ranks	Z	Sig.
MDI	Negative	9	5,00	45,00	2,714	0,01
	Positive	0	0,00	0,00		
	Ties	0				
CA	Negative	9	5,00	45,00	2,666	0,01
	Positive	0	0,00	0,00		
	Ties	0				
EA	Negative	9	5,00	45,00	2,668	0,01
	Positive	0	0,00	0,00		
	Ties	0				
SA	Negative	9	5,00	45,00	2,677	0,01
	Positive	0	0,00	0,00		
	Ties	0				
PA	Negative	9	5,00	45,00	2,684	0,01
	Positive	0	0,00	0,00		
	Ties	0				
AL	Negative	9	5,00	45,00	2,666	0,01
	Positive	0	0,00	0,00		
	Ties	0				

Note: MDI= Major Depression Inventory; CA=Cognitive anhedonia, EA=Emotional anhedonia, SA= Social anhedonia, PA=physical anhedonia; AL= anhedonia list.

The Results of the Second Hypothesis: the text of the hypothesis "There are statistically significant differences between the rank means of the experimental group and the rank means of the control group after applying the mindfulness-based anhedonia reduction program on the major depression inventory and an anhedonia list in favor of the experimental group", and to verify the validity of this hypothesis, it used Mann–Whitney test, and Table 4 shows the results:

Table 4: *The differences between the rank means of the experimental group and the mean scores of the control group members on the major depression inventory and the Anhedonia List.*

Variables	Group Type	N.	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Sig.
MDI	EG	9	5,00	45,00	0,000	3,479	0,01
	CG	8	13,50	108,00			
CA	EG	9	5,00	45,00	0,000	3,481	0,01
	CG	8	13,50	108,00			
EA	EG	9	5,00	45,00	0,000	3,496	0,01
	CG	8	13,50	108,00			
SA	EG	9	5,00	45,00	0,000	3,534	0,01
	CG	8	13,50	108,00			
PA	EG	9	5,00	45,00	0,000	3,510	0,01
	CG	8	13,50	108,00			
AL	EG	9	5,00	45,00	0,000	3,475	0,01
	CG	8	13,50	108,00			

Note: EG= experimental group; CG =control group; MDI= Major Depression Inventory; CA=Cognitive anhedonia, EA=Emotional anhedonia, SA= Social anhedonia, PA=physical anhedonia; AL= anhedonia list.

The Results of the Third Hypothesis: The text of the third hypothesis: "There are no statistically significant differences between the rank means of the scores of the experimental group in the post- and follow-up measurement after stopping the application of the mindfulness-based anhedonia reduction program for a month on the *major depression inventory* and the anhedonia list." To verify the validity of this hypothesis, it used the Wilcoxon test, Table 5 shows the results:

Table 5: Differences between post-measurement and follow-up measurement on the *major depression inventory* and the anhedonia list:

Variables	Ranks	N	Mean rank	Sum of ranks	Z	Sig.	significance level
MDI	Negative	4	3,00	12,00	1,342	0,180	NS
	Positive	1	3,00	3,00			
	Ties	4					
CA	Negative	2	1,50	3,00	1,414	0,157	NS
	Positive	0	0,00	0,00			
	Ties	7					
EA	Negative	2	1,50	3,00	1,414	0,157	NS
	Positive	0	0,00	0,00			
	Ties	7					
SA	Negative	2	2,00	4,00	0,577	0,564	NS
	Positive	1	2,00	2,00			
	Ties	6					
PA	Negative	2	2,00	4,00	0,577	0,564	NS
	Positive	1	2,00	2,00			
	Ties	6					
AL	Negative	4	3	12,00	1,255	0,221	NS
	Positive	1	3	3,00			
	Ties	4					

Note: *NS= NO significance; MDI= Major Depression Inventory; CA=Cognitive anhedonia, EA=Emotional anhedonia, SA= Social anhedonia, PA=physical anhedonia; AL= anhedonia list.*

Discussion of the search results:

It is clear from the results of Table 3 that There are statistically significant differences between the rank means of the experimental group before and after applying the mindfulness-based anhedonia reduction program on the major depression inventory and an anhedonia list in favor of the post-measurement. And It is clear from Table 4 that There are statistically significant differences between the rank means of the experimental group and the rank means of the control group after applying the mindfulness-based anhedonia reduction program on the major depression inventory and an anhedonia list in favor of the experimental group.

This indicates the effectiveness of a mindfulness-based anhedonia reduction program in reducing major depression and improving anhedonia (cognitive, emotional, social, physical, total score) as shown by statistical analyses.

This may be due to the important role that anhedonia plays in psychological disorders, as the results of some research have found a statistically significant relationship between anhedonia and major depression. (Abouzaid & Abdelhamid, 2023; Enneking, et al., 2019; Su, & Si, 2022). The Diagnostic and Statistical Manual of Mental Disorders Fifth (2013) and Revised Fifth (2022) stated that anhedonia is the core of mood disorders; Thus, targeting anhedonia is considered as a therapeutic target that improves performance, as Vinckier et al. (2017) found that improvement in anhedonia is the strong predictor of improvement in psychosocial functioning. In addition, the mediation tests confirmed that the association between improvement in depressive symptoms and improvement in social functioning was significantly supported by

improvement in anhedonia over time. Gourion, et al., 2016, and Su and Si (2022) considered that anhedonia is expected to become an important clinical sign for predicting treatment outcomes for major depressive disorder and aiding in clinical decision-making.

And there are many evidences which confirms the importance of targeting anhedonia as a therapeutic target; First, anhedonia is an important factor associated with many psychiatric disorders, such as post-traumatic stress disorder, social phobia, schizophrenia (Nawijn et al., 2015; Strauss & Gold, 2012; Watson & Naragon-Gainy, 2010), and eating disorders (Murray et al., 2021). It contributes to poor performance (Ameral, et al., 2017; Fried & Nesse, 2014) and increased suicidal thoughts (Ducasse et al., 2018), Second, anhedonia can be seen as avoidance; Avoidance of pleasurable social situations and interactions is a natural consequence of anhedonia. (Nawijn, et al., 2015; Morgan, et al., 2017); Third: anhedonia as low positive affect or high negative affect (Tragesser, et al., 2008; Buckner, et al., 2019) makes Targeting anhedonia as a therapeutic process belongs to the classical treatment approaches (focusing on reducing negative emotion) and as a low positive emotion makes it within the approaches to positive psychology by improving pleasure.

Anhedonia was targeted in the current research as an independent variable by reducing it and improving the ability to enjoy a direct effect on individuals with major depressive disorder, as anhedonia is a strong feature and essential symptom in major depression, and the direct focus on it had a strong effect in reducing depression.

The multiplicity of therapeutic goals (cognitive, emotional, social, and physical pleasure) within the intervention was appropriate in satisfying the various tendencies, orientations, and themes of pleasure among individuals with major anxiety disorders. it opened before them various fields to live an

enjoyable experience consistent with individual differences and the different nature of one individual to another, and he may have had the opportunity to choose between the areas of pleasure that were included in the mental alertness program based on anhedonia, as well as with the list of multidimensional anhedonia, where the program was built and selected. The measurement tool is based on the fact that the concept of anhedonia is a multi-comprehensive concept; Recently, psychologists who adopted the view of hedonism (pleasure) focused on a broad concept of hedonism that includes the preferences and pleasures of the mind and body (Kubovy, 1999), whereby reducing anhedonia to two dimensions: social and physical expresses a narrow or limited concept of anhedonia. Diener et al. (1998) The limited concept of anhedonia; Where he stated that happiness cannot be reduced to the doctrine of physical hedonism, as it can be derived from achieving goals or valuable results in various fields. The current program was multi-activity, themes and objectives that fit the unique diversity of the human being, and suit the pleasures of the body and mind, as stated by Diener et al. (1998).

The mechanism on which the development and improvement of pleasure depended - that is, mindfulness - played a major role in achieving the optimal goals of the intervention, mindfulness was a therapeutic mechanism, as a developmental and constructive mechanism, as a protective factor, as an insulator. (Barcaccia et al., 2022; Didonna, 2009; Morris, 2020; Nyklíček & Kuijpers, 2008; Watkins et al., 2022).

The combination of anhedonia and mindfulness in one approach was effective in reducing major depression, as the two together served as a tool for building and developing (mindfulness and materials (anhedonia/ hedonic). It was a practical intervention in the first place that pushes the client to move and exert effort in simple enjoyable aspects that may be different from other treatment topics that make the client make an effort to search for previous

experiences or reveal dysfunctional beliefs or expose him to strong negative emotional experiences or strain the mind in learning through metaphors or strenuous exercises, The current intervention does not focus on what was, but rather on what the client is doing now and in the future. It builds new relationships with oneself, society, or nature, that make the client look positively at the various aspects of life. In other words, the client learns through this approach to create pleasure and enjoy it.

This confirms the results of research that concluded that many of the psychological approaches that targeted anhedonia were of benefit limited, For example, cognitive behavioral therapy, mindfulness-based cognitive therapy (Boumparis et al. 2016), cognitive therapy and antagonistic medication (Dunn et al. 2020: Watson et al. 1988). Also, behavioral activation—which aims to increase positive reinforcement associated with a response through participation in activities (Manos et al. 2010)—is relatively ineffective in treating anhedonia. Thus, it was a need to other techniques and new experiments to target anhedonia, and mindfulness in the current approach was effective in targeting anhedonia.

Research findings support the association between mindfulness and anhedonia in many studies, Carlton et al. (2021) indicated that there is a relationship between mental alertness and anhedonia, and it was demonstrated that only improvement in mental alertness was a mediator for the improvement of social anhedonia, Thomas and Garland (2017) found that mindfulness was associated with the ability to enjoy hedonism in a sample of people with chronic pain, and mindfulness can help increase enjoyment of hedonistic experiences. This applies, for example, to the enjoyment of food, which is higher with alert attention (Arch et al. 2016; Hong et al. 2014).

As well as to satisfy pleasurable sexual activities in relationships (Khaddouma et al. 2015). Additionally, there is evidence that mindfulness

interacts positively with the ability to savor positive emotions in the present moment, The interaction and synergy between mindfulness and the perceived ability to savor the present moment predict daily positive emotions and also influence other psychological variables (well-being, depression, life satisfaction). (Kiken et al. 2017). Thomas and Garland (2017) recommended that interventions that increase mindfulness may reduce pain-related vulnerability by enhancing the capacity for hedonic, whereby anhedonia was associated with pain-related interference, whereas mindfulness, was protected against such an intervention by virtue of It is associated with a greater ability to have hedonic.

The dependence of the current intervention on a set of other therapeutic techniques derived from other approaches has made it a comprehensive and integrated treatment, Knowing that these techniques have been employed in serving the current approach - **MBAR** - to serve the goals of the intervention, These techniques have acquired a new function within the framework of the current intervention, and perhaps this diversity in creating and experiencing pleasure has made it a unique treatment in reducing anhedonia and improving hedonism, The current approach relied on the use of assistive technologies that can be grouped into three groups; (1) dysfunction thought modification techniques associated with anhedonia, (2) visualization techniques to evoke experiences that may not be available in the intervention room, (3) flooding techniques used to place the client into direct actual experience. The specialist may have the freedom to choose techniques that help him from other therapeutic approaches.

The effectiveness of the intervention in the current research may be due to the fact that it targeted a central trait - anhedonia / anhedonia - in psychopathology, which may be involved in psychosis, neurosis and personality disorders, Thus, focusing on them and treating them may be at the

same time a treatment for the associated disorders, which may not deviate from psychosis, neurosis, and personality disorders, and therefore the benefit may extend from the intervention to the associated disorders of the client, which makes the effectiveness greater and more feasible than the entrances, In which the interest and influence is focused only on the principal symptom or a particular disorder.

It is clear from the results of Table 5 that there were no statistically significant differences between the ranks of the scores of the experimental group in the post- and follow-up measurement, one month after stopping the application of the MBAR program on the major depression inventory and the anhedonia list. This result indicates continued efficacy of the intervention after one month from stopped the application of the program.

The continuity of the effectiveness of the intervention is due to the fact that the intervention relied on a broad concept of anhedonia (cognitive, emotional, behavioral, social), which made there are various opportunities for the client to develop his enjoyable experiences, and discover himself in the field he seen appropriate. The intervention also included a variety of levels of anhedonia (Desire, effort, experience), and this made the client start from the level that represents a problem for him, and a variety of pleasure activities were presented in the program, and this gave the client an opportunity to get acquainted with a large number of interesting materials and activities that may not be known to the client.

The results of the current research agree with the model of Abouzaid, and Abdelhamid (2023), which indicated that mindfulness has a direct and indirect effect on both anxiety and depression, and anhedonia played an important mediating role in the development of this relationship, The results of the current research may support the model of Abouzaid, and Abdelhamid (2023) which he proposed a therapeutic approach, " MBAR".

The results of the current research are also consistent with the theoretical frameworks and studies that indicate that mindfulness is a mechanism that works to increase the enjoyment of life, which in turn affects psychological disorder (including major anxiety disorder), Thomas and Garland (2017) found that mindfulness was associated with the ability to hedonistic, and others saw that mindfulness helps increase enjoyment of hedonistic experiences. (Arch et al. 2016; Hong et al. 2014; Khaddouma et al. 2015).

Recommandations:

- Further research to verify the mediating role of anhedonia between mindfulness and other disorders (**model**) on other samples and in other settings.
- To investigate the effectiveness of a **MBAR Therapy** approach on other psychiatric disorders in social and clinical settings.
- Conducting researches on clinical samples to verify the therapeutic approach “**MBAR Therapy**”.

Conclusion:

The results of the current research revealed the effectiveness of MBAR Therapy (16 sessions) in reducing major depressive disorder and reducing anhedonia on a sample of Sohag University students in Egypt. The program was built on the model of both Abouzaid and Abdelhamid (2023), who indicated mindfulness has a direct and indirect effect on both anxiety and depression, and anhedonia played an important mediating role in developing this relationship, and the results of the current research confirm the validity of the model.

Research limitations:

The researchers were unable to obtain clinical samples for the program, and the data needed to design a randomized controlled trial were not available.

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Appendix 1: Proposed MBAR Therapy in the current research: It was formulated in the following scheme:

Procedural Objectives	Session Content	Evaluation
<p>Introducing the program: the nature of participation in the program, the number and time of meetings, the objectives of the program, and a sample of the trainings.</p>	<p>Body Scan: Sit in a comfortable chair (or on your back or on your bed, choose a place where you feel warm and undisturbed). Then gently close your eyes / connect with the movement of your breath and the sensations of your body, then focus your awareness on the physical sensations in your body, especially the sensations of touch or pressure, as your body contacts the chair, let go of your breathing, and allow your body to sink into the chair / remind yourself that this exercise is not intended to You feel any different, relaxed or calm, this may or may not happen. Instead, remind yourself that the goal is to increase awareness of any sensations you detect as much as possible. Focus your attention on each part of the body in turn. Now focus your awareness on the physical sensations in your body. lower abdomen, to become aware of the changing patterns of sensations in the abdominal wall as you breathe in, as you exhale and as you exhale take a few minutes to feel the sensations now move your awareness down the left leg, then to the left foot, then to the toes of the left foot, concentrating on each toe left, note the sensations you find, you may notice a feeling of contact between the toes, a tingling feeling, warmth, or the absence of a certain sensation / when inhaling, feel or imagine your breath entering the lungs, then passing into the abdomen, into the left leg, and the left foot, It comes out of the toes of the left foot. Then, on the exhalation, feel or visualize the breaths going back up, from the foot, up the leg, up through the belly, through the chest, and through the nose coming out. As far as possible, hold this for a few breaths, noticing that the breath comes out of the toes, and returns from the toes Experiencing "breathing with" the sensations — becoming aware of the breath in the background, as you are in the foreground, exploring the sensations of the bottom of the foot / broaden your focus in the rest of the foot up to the ankle, top of the foot, and right into the bones and joints. Next, take a little deeper breath, directing it down into the entirety of the left foot, let go of the left foot completely, and move down the left leg, thigh, calf,</p>	<p>Have you felt different physical sensations than before (somewhat, you notice, too)? Were you conscious of each organ in your body in a different way (somewhat, conscious, very)? Have you controlled other thoughts that distract you from the goal of the exercise (somewhat, controlled, very)?</p>

Procedural Objectives	Session Content	Evaluation
1)Improving or building	<p>knee, etc., in turn/continue to focus the gentle awareness of the physical sensations in each part of the body. Other body parts - upper left leg, right foot, right foot, right leg, pelvis, back, abdomen, chest, fingers, hands, arms, shoulders, neck, head and face. In each area, as far as possible, with the same degree of awareness focus on the physical sensations present. When you let go of each major breathing area before letting go / When you become aware of tension or other intense sensations in a specific part of the body, you can 'breathe in' them - gently using internal breathing to bring awareness directly to those sensations and, as best you can, have the sensation of letting them go, or releasing them. / The mind may inevitably wander away from the breath and the body from time to time. This is completely normal. This is what brains do. When you notice it, gently acknowledge it, notice where the mind has gone, and then gently return your attention to the part of the body you intend to focus on/ After you have "scanned" the whole body in this way, spend a few minutes being aware of the sensation of the body as a whole, and allow yourself to flow Freely in and out of the body / If you find yourself feeling sleepy, you can put your head on a pillow, open your eyes, or practice sitting instead of lying down / You can adjust the time you spend in this practice to become aware or spend shorter or longer time with each part.</p> <p>Band of Light: This exercise aims to help you become more aware of the physical sensations in your body. Find a comfortable place to sit where you won't be distracted for about ten minutes. Use your imagination to visualize a narrow band of white light surrounding the top of your head like a Band. Now imagine this band of light slowly moving down your body, becoming aware of the physical sensations of each part of your body as the band of light progresses downward. If your attention gets distracted, just gently direct it back to the physical sensations you feel as the light travels from the top of your head to your toes. What did you notice while engaging in this exercise?</p> <p>Mindful eating (apples): You can focus on the texture of the apple, its color, notice the beauty in its color and shape, every part of the apple, notice</p>	Have you noticed the beauty in the shape and

Procedural Objectives	Session Content	Evaluation
<p>the desire for physical and emotional hedonic.</p>	<p>the taste, the piece of apple between your teeth, rotate it in your mouth, try to enjoy while eating. Mindful eating (banana): You can focus on the texture of the banana, its color, notice the beauty in its color and shape, every part of the banana, notice the taste, the piece of banana between your teeth, rotate it in your mouth, try to enjoy while eating.</p>	<p>color of the apple (somewhat, pretty, very pretty)? Was eating the apple pleasant (somewhat - pleasant, very pleasant)? Did you feel happy eating the apple (somewhat, happy, very happy)?⁶</p>
<p>2)Improving or building the desire for cognitive and emotional hedonic.</p>	<p>Mindful Reading: (Savoring a Phrase): Sit quietly, read a short piece of reading. What phrase stands out to you? Repeat it, sit with it. What do you conjure? Notice images, ideas, or memories. What meaning does this phrase give to the rest of what you read? Read the full piece, what's the difference? Have you noticed your cognitive abilities? Connecting, reasoning, understanding. Enjoy your cognitive skills as you read. Go back to your reading and rate yourself, your cognitive skill. Mindful reading (tasting a poem): You are now reading a poem, but in a different way, keep away from distractions, read the title of the poem, savor its meaning, think about what it might contain, read the verse, each verse separately, slowly, notice the words, their meanings, the beauty , artistic images, poetry music, focus on enjoying while tasting, notice your various feelings, notice your cognitive skills, move to the next house, the same steps, notice the relationship between the verses, immerse yourself in the pleasure, take a breath whenever you are distracted, and come back again, and finally take Breathe and relax.</p>	<p>Was the reading experience enjoyable (somewhat - interesting, very interesting)? Are you excited to try reading again (somewhat, excited, very excited)? Have you noticed the efficiency of your cognitive abilities (somewhat, noticed, very noticed)? Are you proud of your abilities (somewhat, proud, very proud)?</p>
<p>3)Improving or building the desire for physical and emotional hedonic.</p>	<p>Coffee making: Have you tried making coffee yourself? It might be a fun experience. Imagine that you are going to make a cup of coffee yourself. Now you are preparing the materials (coffee, sugar, water, the cup, coffee Pot, the stove), contemplate all these things, have you forgotten something? Focus on what you are doing, and your feelings at this moment. Start making coffee. It may be extra sugar or just right. Start at work. Mix coffee with sugar, then with water. Note the changes that occur at each stage. Note</p>	<p>Was drinking coffee enjoyable (somewhat - enjoyable, very enjoyable)? Would you like to try again (somewhat - would like - would like very much)? Excited to try</p>

Procedural Objectives	Session Content	Evaluation
<p>4)Improving or building the desire for cognitive and emotional hedonic.</p>	<p>the beautiful smell of coffee, its color. Maybe its texture Notice the sugar Its colour, its taste, its texture Turn on the stove Put the coffee on it Notice the aroma that starts Go near it Sniff it Notice the physical and the emotional Feelings Notice everything you feel The coffee is now ready Put the coffee in the cup Slowly Notice the coffee falling into the cup, notice the smell, the steam, the heat, the shape of the coffee in the cup, now maybe you need to drink that interesting cup, take a deep breath, and stop.</p> <p>Mindful drinking (coffee): You can focus on the temperature, how it feels and the liquid on your tongue, the taste of sweetness, or watch the vapor it emits, notice the emotions as you smell the sweet aroma, notice the listening as you sip the coffee.</p> <p>Mindful Writing (Freewriting): Start writing and write continuously for a set amount of time, 10 to 15 minutes. If it helps, use a prompt, such as, "I feel right now..." or, "I've always been afraid of..." Keep moving the pen, without pausing to correct spelling, grammar, or punctuation. Write down whatever comes into your mind without judgment. Keep writing, stop and read, note your skills, enjoy writing, written is understandable, clear.</p> <p>Focus on a single object: start by sitting comfortably in a place where you won't be disturbed, choose an object to focus on, and without touching it, start looking at the object consciously, take your time to notice all aspects of that object: shape, texture, color, etc. Now, hold it in your hand and notice the different ways it feels. If your attention gets distracted during this exercise, gently bring your focus back to the object. Was this difficult for you or not?</p>	<p>another drink (somewhat, excited, really excited)§</p> <p>Was the writing experience enjoyable (somewhat - interesting, very interesting)? Are you excited to try writing again (somewhat, excited, really excited)? Have you noticed the efficiency of your cognitive abilities (somewhat, noticed, very noticed)? Are you proud of your abilities (somewhat, proud, very proud)§</p>
<p>5)Improving or building the desire for cognitive and emotional hedonic.</p>	<p>Mindful listening (song): listen to a song, note the words, note the meanings of the words, taste the meanings, enjoy what you understand, notice your skills, comprehension, taste, Connectivity, listen to your skills, notice your feelings as you listen, as you employ your skills in your new ideas, gently bring your attention back to the song, Breathing.</p> <p>Attentive singing: Choose a particular song that you like, or memorize its words. Now you may try singing. Singing as the singer sings. Focus on</p>	<p>Was the listening experience enjoyable (somewhat - interesting, very interesting)? Are you excited to try listening again (somewhat, excited, very excited)? Have you</p>

Procedural Objectives	Session Content	Evaluation
<p>6)Building or developing the effort to obtain physical and emotional hedonic.</p>	<p>performing well. Focus on your feelings as you sing. Notice your voice rising to certain punches and falling to others. Like the meaning of your voice, enjoy the performance, notice your emotional and physical feelings, enjoy, allow yourself to experience more enjoyment, savor the lyrics, pause, take a breath, think about performing the experience over and over.</p> <p>Mindful gardening: Gardening is a great way to practice mindfulness and connect with nature at the same time. Prepare yourself for a simple task, such as planting some seeds or watering some flowers. While doing so, put your hand in the soil and feel the texture of it. Is it rough or smooth? Is it wet or dry? Is it warm or cold? Allow yourself to enjoy the process as if you were a child at play, notice the weather - not with your mind, but with your feelings, do you get chills from the air, or is there sweat on your forehead from the scorching sun? Notice any other form of life around you, such as sparrows or birds, or farming tools, notice your feelings, do you feel heard, do you feel proud of this work, do you feel physically satisfied, do you feel excited, go back to gardening again and rate yourself.</p> <p>Visiting the Zoo: Have you thought about visiting the zoo? Now sit down to live the experience in imagination, relax, take a deep breath, then make a visit to enjoy everything you see, anticipate what you can see, select a specific animal, think about its shape, color, sound, eat it, allow yourself to enjoy, select a second animal, a third, Fourth, fifth, select which one you like, which one is more beautiful, the most beautiful voice, the most familiar, focus on your feelings while you notice and realize the beauty, take a deep breath with relaxation, stop.</p>	<p>noticed the efficiency of your cognitive abilities (somewhat, noticed, very noticed)? Are you proud of your abilities (somewhat, proud, very proud)?^g</p> <p>Was the mindful gardening experience (somewhat, very, very) fun? Have you ever experienced this feeling (no, I tried, a lot)? Would you like to apply such mindful steps to another activity such as: cooking, hunting (no, experiment, too)?^g</p>
<p>7)Building or developing the effort to obtain cognitive and emotional hedonic.</p>	<p>Mindful listening (newscast): Do you listen to the newscast, is it boring or long? Come try another method, sit quietly, take a deep breath (inhale/exhale), listen to the handout, scrutinize the speech without judgment, separate your mind completely, pick up the essential elements, rephrase the elements in your language, enjoy listening to your ability to pick up the elements, in your new wording Notice the broadcaster moving</p>	<p>Was the listening experience enjoyable (somewhat, enjoyable, very)? Have you ever experienced this feeling (no, I tried, a lot)? Would</p>

Procedural Objectives	Session Content	Evaluation
<p>8)Building or developing the effort to obtain physical, cognitive, and emotional hedonic.</p>	<p>from one subject to another, from one idea to another. Notice, have you tried the method of listening in this way before? Re-listen to the newscast if you do not follow the steps, make sure that you separate the distractions that are going on inside you, go on, stop, breathe, rate yourself.</p> <p>Mindful model exercise: think about the dominant people in your life, think about the people who have played a direct role in your life: family members, friends, teachers, coaches, etc. Now think about the people who have inspired you indirectly: authors, artists, celebrities, or even fictional characters Do you want to be like them? Choose someone you really like. (Pause enough to think about this) Now think about all the qualities that you like about the person you chose. Think about how you possess these qualities in your personality.</p> <p>Mindful drinking (fresh mango juice): Do you like drinking mango juice, let's try drinking juice in a different way, take a breath, relax, look at the juice cup, the glass is white translucent glass, the juice inside is light yellow, what a beautiful view, observe your physical sensations, Your Emotions Hold the cup in your hand Bring it close to your nose Smell the scent, what a lovely scent Observe your physical sensations, your emotions Close the juice to your mouth Taste it from afar Sip lightly Sip deeper, then long sip Stop Watch your physical sensations Your emotions Your new acquaintance with mango juice, go slow, sip by sip, take a deep breath, then go back to the juice drink, finish the juice drink, the glass is empty, it was a really fun trip, it is a different drink than before, take a deep breath.</p> <p>Mindful Immersion: Sit comfortably in a chair, relax completely, close your eyes, take a deep breath, "inhale and exhale", identify the three things you do most on a daily basis, arrange these things in order of priority, first, second, third, focus on the first thing, if You were reading in a book, for example. (Or clean the house, take the private car or the bus to go to university or work, prepare your food, iron your clothes, or.....) Focus on the book's shape, color, size, length and width, flip the pages of the book</p>	<p>you like to apply such mindful steps to another activity such as: watching a movie, following a sporting or cultural event (no, try, too)^g</p> <p>Was the juice drink experience (somewhat, very, very) fun? Have you ever experienced this feeling (no, I tried, a lot)? Would you like to apply such vigilant steps to another drink such as: pomegranate, banana with milk, date with milk. (No, try, too)^g</p>

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<p>9)Building or developing the effort to obtain social hedonic.</p>	<p>Notice the texture of the pages as you turn, notice your hands as they turn, notice your feelings and feelings, focus on enjoying, have you noticed who is the author of the book? Did you notice the number of pages in the book, did you notice how many chapters there were in the book, did you notice the quality of the book's font? Did you make notes in the margins of the book? Did you notice the content of chapters one, two, three...etc., did you understand the basic idea of the book? What do you think, do you reconsider when you read the book again and take into account these observations when reading?</p> <p>Mindful Meeting: Meeting with friends or relatives may be an important thing, however you may not want it. Let's try the meeting in another way. Take a suitable place to sit, relax, take a breath. You are now in a meeting with a group of individuals. Leave your feelings, your thoughts, your opinion of them. Away from the meeting, look at them that they are A, B, C, listen to them without judging what they say, just listen -, any hadith they speak, each hadith expresses the opinion of its owner, accept or not accept, but do not interrupt, do not attack, take a breath, The second person speaks. Notice your feelings, emotions, feelings, do not make them positive or negative, but just listen, enjoy the meeting, give yourself the greatest opportunity to enjoy, remind yourself. It may be appropriate for each person to express his opinion, and from etiquette not to interrupt, but to follow up. It's the good interaction, take yourself, really had a nice time with relatives, go back to normal.</p> <p>Silent Connections (group exercise): Participants are asked to follow two steps, walk around the room silently while silently trying to communicate with each other - no talking allowed! Only using only non-verbal cues such as eye contact, smiling, and facial expressions Participants should try to immerse themselves in the experience of building silent connections with each other Focus on having fun Each one focuses on their feelings and emotions during the practice Focus on the idea you want to convey to others Focus On the idea that others convey to you, note the harmony with the</p>	<p>Was the meeting experience (somewhat, very, very) enjoyable? Would you like to apply such mindful steps to another meeting (no, try, too)?</p>

Procedural Objectives	Session Content	Evaluation
<p>10)Building or developing the effort to obtain cognitive hedonic.</p>	<p>group, notice the enjoyment with them, the experience may be interesting, take a breath, stop.</p> <p>Mindful Hiking: Hiking may be a beautiful thing, but many may neglect it. Try hiking in a different way. Sit in a comfortable position. Relax. Close your eyes. Now you are in front of a park that is famous for being beautiful. Start entering. Wander in all directions. Look at the beautiful trees. Try. To enjoy the beautiful scenery, focus on enjoying only, through the variety of trees, the variety of colors, the variety of sizes, really a wonderful view, look for listening in other aspects of the garden, there may be some beautiful roses, focus on your physical and emotional feelings, and knowledge while strolling and enjoying together, take a breath and start hiking again, and after a while, take a deep breath, stop.</p> <p>Mindful Breathing: Close your eyes, or if you are not comfortable closing your eyes, just pick a spot on the ground in front of you to fix your gaze on, just notice your breathing (10 seconds of silence) Don't change it, don't make it different, just notice it (10 seconds of silence) silence), notice each exhalation and each inhalation (10 seconds of silence), notice how you feel in your body when you inhale and exhale (10 seconds of silence), notice which parts of your body move while breathing. (10 seconds of silence), see if you can notice every aspect of your breathing, (10 seconds of silence), notice if you can even notice that little urge to inhale and exhale that comes right before you actually inhale or exhale. (10 seconds of silence) Hold on like this for a few moments, just noticing your breathing (10 seconds of silence) Also notice when something is pulling you away from observing your breathing. Perhaps thoughts jump into your mind about something, or you get distracted by a sound. Every time this happens, just flex that mental muscle to bring yourself back to the breath. Just shift your attention to breathing. (10 seconds of silence) Just hold this way for a few moments. (10 seconds of silence), notice each breath and exhalation. (10 seconds of silence), watch your breathing as it happens. (10 seconds of silence), no need to try to change it or make it different, (10 seconds of silence), just</p>	<p>Was the hiking experience (somewhat, very, very) enjoyable? Did I gain new knowledge in this exercise (no, I gained, too)? Have you noticed your pleasant outbursts (somewhat, noticed, very)?⁸</p>

Procedural Objectives	Session Content	Evaluation
<p>11)Building or developing the effort to obtain emotional, physical and cognitive hedonic.</p>	<p>notice what the inhale and exhale are like. (10 seconds of silence), notice when something moves away from you, and each time, return to the breath. (10 seconds of silence), continue to breathe in and out. (10 seconds of silence), just noticing what it feels like to breathe in and out. (10 seconds of silence), notice all the sensations associated with breathing. (10 seconds of silence) It's time to go back into the room, when you're ready, open your eyes.</p> <p>Mindful Eating: Notice the order of the food, choose a delicious food to start with, Feel the food in your hands, just enjoy, just allow the enjoyment, notice your emotions, try a slow bite of the food, Feel the taste, make it slowly rotate between your jaws, Savor the taste, Enjoy, allow each beautiful feelings and sensations to come to you, taste the texture of food on your tongue. Is it spongy, crunchy, chewy? Before you swallow, take your favorite drink while you eat, feel the taste on your tongue, walk around your mouth, notice how your body feels as you chew your food.</p> <p>Mindfulness Colouring: in front of you is a group of paintings, choose the right one for you, choose your favorite colors, show coloring, focus on coloring only, notice what you color, notice the color, try to enjoy the experience, notice your feelings and emotions while coloring, distance yourself from any distractions, make Your mind focuses on coloring, take a breath when moving from one task to another, try to choose the appropriate color, focus on the consistency of colors, focus on the color that highlights a certain idea, notice what you feel of enjoyment and pleasure, keep those feelings, complete the coloring, try to discover your skills And your abilities and enjoy them, note your enthusiasm, or create enthusiasm, focus on completing the activity accurately.</p>	<p>Was the eating experience enjoyable (somewhat, enjoyable, very)? Have you noticed your emotions and pleasant feelings while eating (somewhat, noticed, very)</p>
<p>12)Building or developing the effort to obtain emotional and physical hedonic.</p>	<p>Mindful showering: Leave all of your electronic devices on the other side of the bathroom door, far enough away that you can't hear them. Prepare the towel and other necessary things, put them in the right place very carefully. As you undress, silently name each piece of clothing and hang or lay it down with deep attention. Consider the idea that you are about to take a</p>	<p>Was the bathing experience enjoyable (somewhat, very, very)? Have you noticed your emotions and pleasant feelings (somewhat,</p>

Procedural Objectives	Session Content	Evaluation
<p>13)Building or developing a hedonic emotional, physical and cognitive experience.</p>	<p>shower for the health of your body and mind. Feel the water on your body, and take a moment to feel grateful that the hot water is running. Notice the water falling on your head, on your right side, on your left side, in all directions, notice the soap foam, rub it into your body, hold the foam in your hands, feel its foamy texture, notice your feelings, notice your physical feeling, enjoy, enhance the enjoyment if a certain situation Taking a shower enhances that feeling. Wash your body in a different way than usual. Change this pattern every time you shower. The timing of your shower is not important. All of this can be done quickly or slowly, depending on how much time you have. When you get out of the shower, dry yourself off. When you're done, leave the bathroom in the same or better condition than you found it so it's ready for the next person, even if that person is just you.</p> <p>Mindful Walking: Get ready for a mindful walking exercise Appropriate dress, right time Just start with mindful walking Walk slower than usual Focus on the bottom of your feet when you take each step Notice the progression of your feet Focus your attention on feeling that Your feet touching the ground, notice the distances you travel, notice your feelings as you walk, notice the vitality that may overwhelm you, focus on enjoyment, physical and emotional, focus on the confidence that gives you this feeling, notice the amount of happiness and physical satisfaction that you feel, you may need to repeat All these steps if the walk is a long distance, at one time focus on walking and the feelings associated with it, and distance yourself from concerns, whether it is thoughts or playing in a specific thing, such as the phone.</p> <p>Mindful Observation: This exercise is simple yet incredibly powerful because it helps you notice and appreciate seemingly simple elements of the environment in a more profound way. The exercise is designed to connect us with the beauty of the natural environment, and the exercise is performed as follows: relax, take a deep breath, close your eyes, choose a natural object from the environment around you and focus on watching it for a minute or two, it can be a flower or an insect, or even clouds or Moon Do nothing but</p>	<p>noticed, very)? Did you feel physically pleasure (somewhat, you notice, very)?</p> <p>Was the observational experience hedonic (somewhat, fun, very)? Have you noticed your emotions and pleasant feelings (somewhat, noticed, very)? Are you</p>

Procedural Objectives	Session Content	Evaluation
	<p>notice the object you are looking for Simply sit back and watch for as long as your focus allows Look at this object as if you were seeing it for the first time Visually explore every aspect of its composition, devote yourself to exploring it Allow yourself to connect with a purpose This object is within the natural world. Notice the elements of beauty in that object. Notice your feelings as you master the observation. Focus only on your enjoyment of that observation. Take a deep breath. Stop.</p> <p>Raisin Eating: Put a handful of raisins in your hand. If you don't have raisins, any food will do. Imagine that you just came to Earth from a distant planet without such food. Now, with this food in hand, you can begin to explore it with all your senses. Focus on an object as if you've never seen anything like it before. Focus on seeing this thing. Scan it and explore every bit of it, like you've never seen anything like it before. Turn it around with your fingers and notice its color. Notice the folds, next, explore the texture, feeling for any hardness, roughness, or smoothness. while you are doing this. If thoughts like, "Why am I doing this weird exercise?" "How will this help me? Then just see if you can acknowledge those thoughts. Let them be. Then bring your awareness back to the raisin. Take the raisin down your nose and carefully note its scent. Bring the raisin to one ear, squeeze it, spin it, and hear if there is Any sound that comes out of it Begin to slowly take the raisin into your mouth Place the raisin gently in your mouth Place it on your tongue without biting it Just explore the sensations of the raisin in your mouth Allow yourself to savor the pleasure, when you are ready Bite on the body deliberately Maybe Notice how it automatically moves to one side of the mouth versus the other. Also, notice how you taste the raisin. Chew that thing slowly. Pay attention to the saliva in your mouth and how the shape of the raisin changes as you chew. When you feel ready to swallow. Consciously note the intention to swallow. Then check if You could notice the sensation of swallowing a raisin, feel it go down your throat, down your esophagus on its way to your stomach, notice your various feelings—physical, cognitive, and emotional.</p>	<p>excited to try something else (somewhat, excited, very)? Are you proud of yourself (somewhat, proud, very)?^f</p>

Procedural Objectives	Session Content	Evaluation
<p>14)Building or improving the experience of hedonic "emotional and physical."</p>	<p>Star Observation Exercise: Relax, stretch while looking at the sky, take a deep breath, notice the stars in the sky, remove any distractions, any other thoughts, just notice the stars, their unique order, beauty, light, movement, notice your feelings as you notice the stars, Notice your enjoyment, are you listening, focus on the enjoyment, try to derive pleasure from your observation of the star system, take a breath whenever you are distracted, focus your attention on following the stars, and stimulate listening.</p> <p>Clouds Observation Exercise: Relax, stretch while looking at the sky, take a deep breath, notice the clouds in the sky, remove any distractions, any other thoughts, just notice the clouds, their unique order, beauty, movement, notice your feelings as you notice the clouds, notice your enjoyment Are you listening, focus on enjoying, try to derive pleasure from observing the cloud system, take a breath whenever you are distracted, focus on following the clouds, and stimulate listening.</p>	<p>Was the observational experience hedonic (somewhat, very, very)? Have you noticed your emotions and pleasant feelings (somewhat, noticed, very)? Are you excited to try another object in the sky: like the moon (somewhat, excited, very)?[§]</p>
<p>15)Building or developing hedonic emotional, physical, cognitive and social experience.</p>	<p>Mindful Competition: Relax in a comfortable chair, take a deep breath, remove all distractions from you, such as external sounds: a phone, a watch beeps, someone makes a sound, imagine that you are in a cultural competition, consisting of two teams, you are participating in one of these teams, put your name For your team, determine a distinguished performance for yourself in your team, the questions are easy, within your reach, are you excited to win, are you excited to be a reason for the success of your team, let's imagine yourself being excited, answering the questions, notice your physical emotional feelings, notice your cognitive abilities, notice your role In the team, everyone praises you, everyone pats you on the shoulder, and some look at you with a beautiful smile. Notice your feelings after your team is declared the winner. Notice all your beautiful feelings at this moment. Take a deep breath, and relax deeply.</p> <p>Meditation for Feeling Sensations: Notice the keen awareness of your breathing. Notice the inhale. Notice the exhalation. Begin to feel the abdomen expand with each inhale. Feel the belly contract with each exhalation. Sense of breath enters through the nostrils and fills the lungs.</p>	<p>Was the experience of mindful participation in a competition fun (somewhat, fun, very)? Have you noticed your emotions and pleasant feelings (somewhat, noticed, very)? Are you excited to try another one (somewhat, excited, very)? Are you proud of yourself (somewhat, proud, very)?[§]</p>

Procedural Objectives	Session Content	Evaluation
<p>16)Build or develop a enjoy emotional, physical, cognitive and social experience.</p>	<p>Feel the breath coming out through the nostrils as the lungs contract. Relax with breathing. Look for a feeling of heaviness in the body. I feel heavy. Feel every part of your body, from your toes to the top of your head, become heavy. You are so heavy that you sink into the ground. Find this awareness. I feel heavy. (Long pause). Now pay attention to the lightness in the body. Awaken that lightness in every part of the body, from the top of the head to the tips of the toes. Every part of the body is light and weightless. The object becomes so light that it may float off the ground. Beware of this lightness. I feel so light. Now find the feeling of cold. Discover that cold-to-the-bone feeling. Imagine that you are facing the icy winds of winter face to face. Imagine that you are walking barefoot on a sheet of ice. Your feet are cold. Your bones are cold. Your body is cold. Be aware of this cold feeling. you feel cold. Now turn to the feeling of heat. Discover the experience of heat all over the body. Imagine a hot humid day, no wind, the sun beating down on your skin. Imagine that you are sitting in a sauna, the warm steam rising up and filling the air with heat. be hot. I feel hot. Pay attention to the heat. Now go to the experience of pain. Focus on the feeling of pain, the emotional pain. physical pain Be aware of this pain. Sit with this feeling of pain. Now it brings a sense of pleasure. Immerse yourself completely in the fun. Relive any previous experience of pleasure, whether physical or mental. Be in that moment. I feel good. Be aware of this fun. Now go back to your breath. Notice the calmness of your breath and the regularity of your breathing. inhale exhale. open your eyes.</p> <p>Writing an article: Have you tried writing an article, or your daily diary? Relax, take a deep breath, and imagine that you are writing a small article or a special note. Do you have anything to start with? To help yourself, name three ideas that made you smile today. Name three things that challenged you today Name three urges you resisted today Name three events that made you feel productive today Name three actions that made you feel loved today Name three beautiful things you heard today Name three experiences</p>	<p>Was the essay writing experience enjoying (somewhat, fun, very)? Have you noticed your emotions and pleasant feelings (somewhat, noticed, very)? Are you</p>

Procedural Objectives	Session Content	Evaluation
	<p>that made you feel brave today List three things you learned today Name Three beautiful things I saw today, focus on how you feel, focus on your feelings during the task, indulge in enjoyment, take a deep breath, and stop writing.</p> <p>Forgiveness: Sit comfortably and relax Notice your breathing Inhale deeply and slowly Notice each breath Attend to the present moment with kindness and curiosity Focus on your breath and body and relax Visualize who offended you, their name, and the type of abuse Be aware of the feelings and physical sensations you evoke Say to him: "I forgive you." If you cannot, repeat the exercise again, and imagine that it was you who offended you. Do you need this person to forgive you? Take a deep breath each time.</p>	<p>excited to try another one (somewhat, excited, very)? Are you proud of yourself (somewhat, proud, very)?</p>
Closing	<p>These include assessment (application of the anhedonia list and major depression inventory), generalization (generalization assessment worksheet), and innovation (innovation assessment worksheet).</p>	
Homework	<p>Each session will be accompanied by a worksheet that follows the practice of the Mindfulness exercise, and an innovation assessment worksheet, The specialist allocates 15 minutes at the beginning of each session to evaluate and discuss the homework, with modification and reinforcement.</p>	